

## REMARKS/ARGUMENTS

Applicants respectfully request reconsideration of this application. Claims 1-8, and 21-28 remain in the application. Of these, claims 1, 3-8, 21, and 23-28 stand rejected; and claims 2 and 22 stand withdrawn.

Claims 1 and 21 have been amended to clarify that the crossover circuit trace is deposited over the sacrificial material such that it conforms to the sacrificial material. Support for this amendment is found, at least, in paragraphs [0013] and [0014], and in FIGS. 2 & 3, in which the conforming of the crossover circuit trace to the sacrificial material is inherent in the disclosed "depositing". Thus, it is believed that no new matter has been added.

### 1. Rejection of Claims 1 and 21 Under 35 USC 102(b)

Claims 1 and 21 stand rejected under 35 USC 102(b) as being anticipated by Tatsuya Tominaga (Japanese Patent No. JP401245547A; hereinafter "Tominaga").

The Examiner seems to downplay the product-by-process limitations of applicants' claims 1 and 21. Specifically, the Examiner cites MPEP §2113 and §2173.05(p) for the proposition that, "A process limitation cannot serve to patentably distinguish the product over the prior art, in the case that the product is the same, or obvious over, the prior art." See, Examiner's 2/25/2005 Office Action, sec. 3, pp. 2-3. However, MPEP §2113 actually states:

The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.).

In applicants' claim 1, a sacrificial material is thermally decomposed to leave a "crossover circuit trace" crossing over "one or more circuit components". Although the English summary of Tominaga's teachings indicates that Tominaga discloses "a power supply wiring 4" that crosses over a "wiring 2", thereby forming a "space 3" therebetween, the English summary of Tominaga's teachings does not indicate how the "space 3" or "wiring 4" is formed. In applicants' claims 1 and 21, a "crossover circuit trace" is formed by depositing the crossover circuit trace over a sacrificial material such that the crossover circuit trace conforms to the sacrificial material. The sacrificial material is then thermally decomposed. In this manner, applicants can precisely define the cross-section of an air bridge. Based on the English summary of Tominaga's teachings, the degree of precision with which Tominaga may define an air bridge is unknown, and it is merely speculation that Tominaga can achieve the same degree of precision offered by applicants' air bridge production process.

Similarly to the structural limitations that the court indicated were implied by the *Garnero* process, applicants believe the structural limitations implied by their own process distinguish their "product" from Tominaga's product. Applicants' claims 1 and 21 are therefore believed to be allowable over Tominaga's teachings.

If applicants' claim 1 is allowed, applicants request the reinstatement and allowance of their claim 2 (which depends from their claim 1, but which stands withdrawn as being drawn to a non-examined species).

## 2. Rejection of Claims 1, 3, 4, 21, 23 and 24 Under 35 USC 102(b)

Claims 1, 3, 4, 21, 23 and 24 stand rejected under 35 USC 102(b) as being anticipated by Burns (US Patent No. 3,729,816).

Again, the Examiner seems to downplay the product-by-process limitations of applicants' claims 1 and 21.

In applicants' claim 1, a sacrificial material is thermally decomposed to leave a "crossover circuit trace" crossing over "one or more circuit components". Although Burns teaches a "crossover member 16" that spans a conductive element 13, Burns also teaches that the crossover member 16 is formed on a "carrier member 20" and then transferred to and bonded to conductive elements 12 and 14 on either side of the conductive element 13 which is spanned by the crossover member 16. See, Burns, col. 2, lines 51-63. In applicants' claims 1 and 21, a "crossover circuit trace" is formed by depositing the crossover circuit trace over a sacrificial material such that the crossover circuit trace conforms to the sacrificial material. The sacrificial material is then thermally decomposed. In this manner, applicants can precisely define the cross-section of an air bridge. Although Burns' teachings imply some degree of precision for the formation of the crossover member 16, the extra steps to transfer the crossover member 16 from the carrier member 20 to the dielectric substrate 11, and to bond the crossover member 16 to the conductive elements 12 and 14, appear to present alignment, bonding and other tolerance issues which are mitigated or eliminated in applicants' claimed products.

Similarly to the structural limitations that the court indicated were implied by the *Garnero* process, applicants believe the structural limitations (e.g., tolerances) implied by their own process distinguish their "product" from Burns' product. Applicants' claims 1 and 21 are therefore believed to be allowable over Burns' teachings. Applicants' claims 3, 4, 23 and 24 are believed to be allowable at least for the reason that they depend from claim 1 or 21.

If applicants' claim 1 is allowed, applicants request the reinstatement and allowance of their claim 2 (which depends from their claim 1, but which stands withdrawn as being drawn to a non-examined species).

3. Rejection of Claims 5-8 and 25-28 Under 35 USC 103(a)

Claims 5-8 and 25-28 stand rejected under 35 USC 103(a) as being unpatentable over Burns, as applied to claims 1 and 21 above, in view of Middlehurst et. al. (US Pat. No. 6,604,967; hereinafter "Middlehurst") and Leigh et. al. (US Pat. No. 5,986,893; hereinafter "Leigh").

Applicants believe claims 5-8 and 25-28 are allowable at least for the reason that they depend from claim 1 or 21, and because Middlehurst and Leigh fail to disclose the limitations of parent claims 1 and 21 (see previous argument, *supra*).

4. Conclusion

Given the above Amendment and Remarks, applicants respectfully request the issuance of a Notice of Allowance.

Respectfully submitted,  
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